Pest Update (October 13, 2010)

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Note: samples containing living tissue may only be accepted from South Dakota. Please do not send samples of dying plants or insect from other states. If you live outside of South Dakota and have a question, please send a digital picture of the pest or problem instead. **Walnut samples may not be sent in from any location – please provide a picture instead**.

Available on the net at:
http://sdda.sd.gov/Forestry/Educational-Information/PestAlert-Archives.aspx

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Current concerns

This has been the summer for questions on oak galls! I have received e-samples and samples from across the state this year. The galls have been present most of the summer but must not have been noticed until recently.

The first picture is of the horned oak gall caused by the gall wasp *Callirhytis cornigera*. The twig galls start out with a round shape but eventually forms points or horns, hence the common name. The galls are formed by plant-growth chemicals produced by the insects combined with growth regulators produced by the plant. The galls provide shelter for the developing larvae, excellent protection from natural enemies and environmental extremes. The deformed plant tissue is also rich in protein, perfect nutrition for the insects as they grow.

The second picture shows the woolly oak galls. This is a common leaf gall of white and bur oaks and again is formed by a small gall wasp. Each gall wasp species makes a unique gall, though for many, alternate generations produce a different shaped gall often on different plant parts. Galls can also be formed by fly larvae or even mites. Regardless the galls are more a cosmetic problem than one affecting the tree's health. There are a few that can become so abundant on a twig that dieback results but these are the exception. There is also an oak leaf gall mite (*Pyemotes herfi*) that feeds on midge larvae in the galls but also bites humans so it can become an annoyance.

The big question this week – "How do I get rid of these %#$#*! lady beetles!" The multicolored Asian lady beetles are on the move again this fall. The insects are already being to appear in apples that are still hanging from the tree as well as fall raspberries. The insect typically feeds on aphids but will also feed on sweet fruit in the fall. However the biggest problem with these insects is they like a warm place to live for the winter – your house! Soon people will be noticing these lady beetles on the windows of any sunny rooms. Not only is it a nuisance to have all these insects walking on the windows and flying through the house, they also can bite! The bites do not draw blood, nor do they carry any diseases, but it is another annoyance. Finally if you smack one you'll find it gives

off a yellow-orange fluid (reflex bleeding) that has a foul odor and stains surfaces. And if that is not enough about 25% of people have allergic reaction to contact with the beetles. Not the best house guests.

No one is quite sure what triggers the mass migration of these beetles from field to homes but their aggregation to building is most likely related to the shorter day lengths, a drop in temperature (40-50^{o}F) at night and warmer (60-70^{o}F) days. Typically the lady beetles begin moving sometime in early October (I found this usually timed to when I am trying to paint the house or an outbuilding). Keeping the beetles out of the house requires several different strategies. First step is to seal as many opening into the house as possible. This means around doors and windows, fascia board and vents and any other opening more than 1/8-inch or larger. Once in the house, do not use a household insecticide, instead a vacuum cleaner is a good means of getting rid of the insects though you'll find you are repeating this treatment on almost every sunny day this fall if you did not seal the house well enough. The second approach is to apply an insecticide on the outside walls of the house. The insecticide should be applied around doors windows, and rooflines. The most common active ingredient used for control is products containing permethrin, though there are several other effective active ingredients as well. Do not apply the insecticide to the landscape as beetles can travel long distances to houses and do not necessarily land on nearby trees and shrubs before reaching the house. There is also an inexpensive light trap that can be built by homeowners. The instructions are available at http://ipm.osu.edu/lady/L.T.instr.htm Remember the strategies focus on keeping them out of the house, once they are in, you now have winter guests that will not leave (like relatives).

The multicolored Asian lady beetles were introduced into this country from Russia, Japan and Korea beginning in 1916 with most introductions in the 1960s and 1970s. They were brought over as they are efficient aphids feeders, better than our native lady beetles, and in our region are important controls for the soybean aphid and the cornleaf aphid. The multicolored Asian lady beetles may be yellow, orange or red and sometimes with spots. Photo Credit: Ohio State University.

E-samples

I got a great picture of codling moth damage from Rick out in Pennington County. Codling moth (*Cydia pomonella*) is not a common apple pest in South Dakota, but it can occasionally become a problem in the home orchard. The infested fruit has a distinct appearance, quite different from the lumpy fruit of apples infested

by apple maggot. The base of the infested apple will be covered with brown, powdery sawdust. This is frass pushed out by the larvae as it feeds in the fruit. If the infested fruit is sliced open there will be a cavity near the center of the fruit with a trail leading to the entry hole near the base. The ½ inch long larvae can be found in midsummer but has often left the fruit by this time of year having dropped to the ground to pupae. The best control at this time of year is to remove infested fruit from the tree and any windfalls from the ground. Next spring apply Malathion at petal fall, the time when most of the flower petals have fallen, and then another application about 10 days later.

Samples received

Beadle County **Why are these Rocky Mountain junipers dying? The producer hand-planted 50 this spring and only 16 survived. They are near a mature belt of junipers that look fine.**

Survival on seedling stock is not always a good as we would like but a loss of almost two-thirds of a planting is higher than normal. I was able to find phomopsis twig blight on the seedling submitted to me. This is a common disease of junipers and usually results in dieback of the new shoots, often just a scattering through the tree. However the disease can be very serious on seedlings where the disease can girdle the young stem, effectively killing the plant. The disease is more often a problem during wet summers or when adjacent stands are infected. The adjacent mature junipers may have the disease and spread it to the seedlings. The best control would be to spray the remaining seedlings with a copper fungicide beginning in mid-May and repeat every two weeks till late June. I also suggest submitted a sample from the mature trees to check for the presence of the disease in them. If you find some yellowing or browning tips in these trees please bag them up and send them in.

Brookings County **Is this tree an Accolade elm? It was planted a couple of years ago at a home we just bought.**

Yes this is the Accolade elm (*Ulmus* 'Morton'). This is an excellent shade tree for the Brookings area. The growth rate can be as much as 3 feet or more when it is young and it is tolerant to a wide range of soil conditions.

Minnehaha County **Does this tree have verticillium wilt? The leaves on a branch wilted.**

Verticillium wilt is a disease that occurs in Norway and sugar maples in South Dakota. This disease is a soil-borne pathogen that causes wilting and dieback in a number of tree species. The two species we see most often afflicted by this disease are catalpa and Norway maple. Verticillium wilt has an acute and

chronic stage and the chronic is what often occurs on maples where a branch or limb will have wilted leaves and that is as far as the symptoms develop. The sample submitted does not have the disease (and it is one of the most often misdiagnosed problems – this wilt disease gets blamed for far more problems than it causes). Individual branch dieback in maples is also associated with stem girdling roots so this is another possibility that should be investigated.

Perkins County **What is causing the browning of these ponderosa pines?**

These trees are infected with the foliar disease dothistroma needle blight. This is a similar disease to diplodia tip blight except only the needles are affected rather than the shoot tips so the typical symptom pattern differs. Dothistroma symptoms often appear in mid-summer or even early fall. The needles develop yellow and tan spots that have a yellow halo. Oftentimes the needle tip will turn brown but the base of the needle will remain green. The disease symptoms are easily confused with a number of other diseases and disorders so it is always best to submit a sample. The most effective control (though it will not eliminate the disease, just reduce its severity) is applying a copper fungicide in mid May as the new growth expands and repeat the application in late June and mid-July.

Perkins County **What is wrong with these 20-year old Colorado blue spruce?**

Once spruce reach the age of 20 they often begin to decline from a multitude of stressors. I suspect there is some cytospora canker on these trees though it does not show up in the sample submitted. Not too surprising as the bluish-white resin blisters appear along the lower branches within a couple of feet of the trunk, not at the branch tips. However I did find pine needle scale and spruce spider mites (in fact I was able to collect some adult mites). The mites are probably the biggest stress of the two. It can be controlled with horticultural oils applied as two treatments about 10 days apart though this will remove the blue coloration from the spruce. Far better control is achieved with a miticide that contains spiromesifen as the active ingredient such as Forbid. This product is available to commercial applicators.